In the claims:

1-202. (Cancelled)

203. (New) A method of ablating a material, the method comprising:

(a) generating a beam of laser radiation in a form of plurality of pulses, said laser radiation having a wavelength suitable for ablating the material; and

(b) within a duration of a pulse of said plurality of pulses, scanning the material by said beam, so as to transfer a predetermined amount of energy to each one of a plurality of locations of the material, said predetermined amount of energy being selected so as to ablate the material.

204. (New) The method of claim 203, wherein said scanning is characterized by at least one scanning-parameter, said at least one scanning-parameter is selected from the group consisting of a scanning-frequency, a scanning-velocity, a scanning-acceleration, a scanning-amplitude, a scanning-angle, a scanning-pattern and a scanning-duration.

205. (New) The method of claim 204, wherein said at least one scanning-parameter is selected so as to compensate spatial non-uniformities of intensity distribution of said laser radiation.

206. (New) The method of claim 204, wherein said at least one scanning-parameter is selected so as to compensate transient non-uniformities of intensity distribution of said laser radiation within said duration of said pulse.

207. (New) The method of claim 204, wherein said at least one scanning-parameter is selected so as to compensate flux non-uniformities caused by different impinging angles of said beam on said plurality of locations of the material.

208. (New) The method of claim 204, wherein said compensating said flux non-uniformities is by selecting said scanning-velocity to be small for large impinging angles and large for small impinging angles, said large impinging angles and said

small impinging angles being measured relative to an imaginary line positioned normal to the material.

209. (New) The method of claim 204, wherein said scanning is by dynamically diverting said beam, so as to provide a substantially constant impinging angle of said beam on each of said plurality of locations of the material.

210. (New) The method of claim 203, further comprising cooling the material during said scanning.

211. (New) An apparatus for scanning a material by a beam of laser radiation being in a form of plurality of pulses, the apparatus comprising a scanning assembly for dynamically diverting the beam, within a duration of a pulse of the plurality of pulses, so as to transfer a predetermined amount of energy to each one of a plurality of locations of the material, thereby to scan the material by the beam.

212. (New) The apparatus of claim 211, further comprising a synchronizer for synchronizing said scanning assembly and a laser device generating the beam.

213. (New) The apparatus of claim 211, wherein said scanning assembly comprises at least one optical element positioned in a light-path of the beam, said at least one optical element being operable to rotate thereby to dynamically divert the beam.

214. (New) The apparatus of claim 212, wherein said scanning assembly is operable to preserve a substantially constant impinging angle of the beam on each of said plurality of locations of the material.

215. (New) The apparatus of claim 211, wherein said scanning assembly is designed and constructed to scan the material in such a manner that spatial non-uniformities of intensity distribution of the laser radiation are compensated.

216. (New) The apparatus of claim 211, wherein said scanning assembly is designed and constructed to scan the material in such a manner that transient non-

uniformities of intensity distribution of the laser radiation within said duration of said pulse are compensated.

217. (New) The apparatus of claim 211, wherein said scanning assembly is designed and constructed to scan the material in such a manner that flux non-uniformities, caused by different impinging angles of the beam on said plurality of locations of the material, are compensated.

218. (New) The apparatus of claim 211, wherein said scanning assembly is operable to provide a small scanning-velocity for large impinging angles and a large scanning-velocity for small impinging angles, thereby to compensate said flux non-uniformities, said large impinging angles and said small impinging angles being measured relative to a normal to the material.

219. (New) The apparatus of claim 212, further comprising a light collector for collecting said additional laser beam when said additional laser beam is reflected from the material, thereby to determine at least one impinging-parameter of said beam on the material.

220. (New) A system for ablating a material, the system comprising:

(a) a laser device for generating a beam of laser radiation in a form of plurality of pulses, said laser radiation having a wavelength suitable for ablating the material; and

(b) a scanning assembly, electrically communicating with said laser device, said scanning assembly being capable of scanning the material by said beam, within a duration of a pulse of said plurality of pulses, so as to transfer a predetermined amount of energy to each one of a plurality of locations of the material, said predetermined amount of energy being selected so as to ablate the material.

221. (New) The system of claim 220, wherein said scanning assembly comprises a synchronizer for synchronizing said scanning assembly and said laser device.

222. (New) The system of claim 221, wherein said synchronizer is selected from the group consisting of an optical synchronizer and an electrical synchronizer.

223. (New) The system of claim 220, wherein said scanning assembly is operable to dynamically divert said beam thereby to scan the material by thc beam.

224. (New) The system of claim 223, wherein said scanning assembly comprises at least one optical element positioned in a light-path of said beam, said at least one optical element being operable to rotate thereby to dynamically divert said beam.

225. (New) The system of claim 223, wherein said scanning assembly is operable to preserve a substantially constant impinging angle of the beam on each of said plurality of locations of the material.

226. (New) The system of claim 220, wherein said scanning assembly is designed and constructed to scan the material in such a manner that spatial non-uniformities of intensity distribution of said laser radiation are compensated.

227. (New) The system of claim 220, wherein said scanning assembly is designed and constructed to scan the material in such a manner that transient non-uniformities of intensity distribution of said laser radiation within said duration of said pulse are compensated.

228. (New) The system of claim 227, wherein said scanning assembly is operable to provide a scanning-velocity which is inversely proportional to said intensity distribution, thereby to compensate said transient non-uniformities of said intensity distribution.

229. (New) The system of claim 220, wherein said scanning assembly is designed and constructed to scan the material in such a manner that flux non-uniformitics, caused by different impinging angles of said beam on said plurality of locations of the material, are compensated.

230. (New) The system of claim 220, wherein said scanning assembly is operable to provide a small scanning-velocity for large impinging angles and a large scanning-velocity for small impinging angles, thereby to compensate said flux non-uniformities, said large impinging angles and said small impinging angles being measured relative to a normal to the material.

231. (New) The system of claim 220, further comprising a cooling apparatus.

232. (New) The system of claim 221, further comprising an additional laser device for generating an additional laser beam.